

OPERATING INSTRUCTIONS AND PARTS LIST FOR

JOINTER

6 INCH

Model Number 103.23900

This is the model number of your Jointer. It will be found on a plate located on the right side of the front table. Always mention this model number when communicating with us regarding your Jointer or when ordering parts.

Instructions for Ordering Parts

All parts listed herein must be ordered through a Sears retail store or mail order house. Parts are shipped prepaid. When ordering repair parts, always give the following information:

1. The Part Number.
2. The Part Name and Price.
3. The Model Number 103.23900.

This list is valuable. It will assure your being able to obtain proper parts service. We suggest you keep it with other valuable papers.

SEARS, ROEBUCK and CO.

LITHOGRAPHED IN U.S.A.

ASSEMBLING AND OPERATING INSTRUCTIONS FOR 6 INCH JOINTER MODEL NUMBER 103.23900

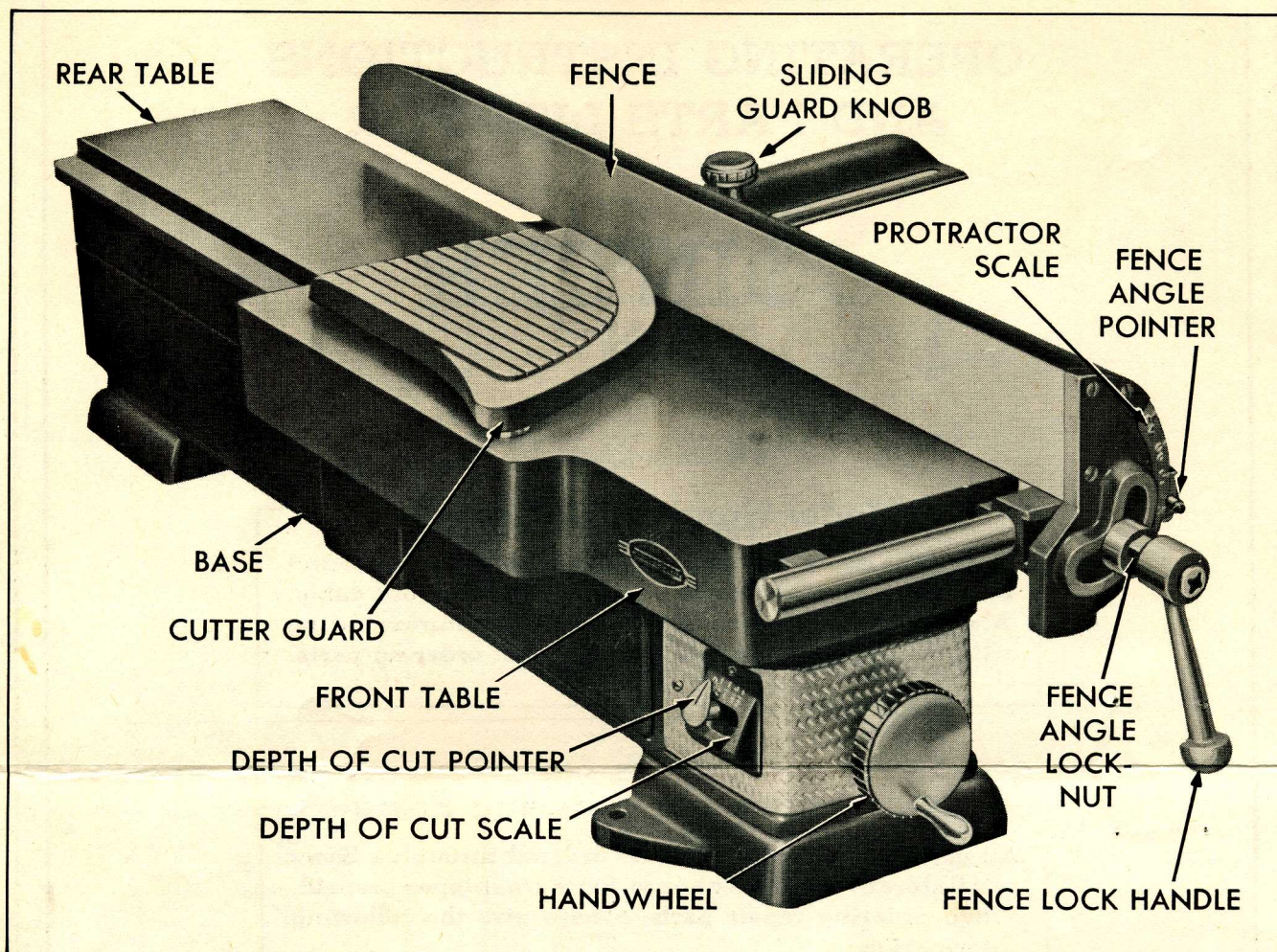


FIGURE 1

REASSEMBLING:

Your jointer has been completely assembled, inspected and tested at the factory. To prevent damage and misalignment of parts during shipping, the cutter guard (see Figure 1) was removed and packed separately. When installing this guard, engage the hexagon stud in the swinging guard insert No. 21412 in operating position and drop the guard in place.

LUBRICATION:

This tool is equipped with two precision type ball bearings which are fully enclosed in dust proof housings. These bearings were packed with grease at the factory and require no additional lubrication for the life of the bearing. Other moving parts such as the elevation screw No. 21614 and the upper and lower dove-tails No. 21218 and No. 21219 may need an occasional application of a light grade oil to insure smooth operation.

INSTALLATION:

The jointer should be mounted securely on a bench or stand so that the surface of the table is approximately 35" from the floor. The motor should be

installed below on a wooden shelf. The jointer pulley is designed to use a $\frac{1}{2}$ " Vee type belt. **Cutter head rotation must be counter clockwise as viewed from the pulley side of the jointer.** Pulley alignment, and belt tension adjustment, as well as direction of rotation should be considered when installing the jointer and its power unit.

SPEED:

For best results the jointer should be operated at approximately 4400 R.P.M. Satisfactory operating power and speed may be attained by using a $\frac{1}{2}$ horsepower 3450 R.P.M. motor equipped with a $2\frac{1}{2}$ inch diameter pulley. Be sure to specify the shaft diameter of your motor when ordering your motor pulley.

CONTROLS:

The position of the fence is maintained by the clamping action of the fence angle lock nut and the fence slide lock No. 18133. The fence may be positioned at any point across the table by loosening the fence slide lock No. 18133 and the sliding guard knob, and moving the entire fence assembly along the fence slide bar No. 21616.

The fence lock handle is designed so that it may be disengaged after use on the lock nut and will hang in a neutral position as shown. The angle between the fence and the table may be changed for beveling operations by loosening the fence angle lock nut and the sliding guard knob. The angle selected for the bevel cut is indicated on the protractor scale. After changing the fence position as described above, check carefully that the fence angle lock nut, fence slide lock, and sliding guard knob are all secure before proceeding with a cutting operation.

The sliding guard knob functions as a lock to secure the sliding guard which supports the fence after it has been positioned.

The hand-wheel is used to raise and lower the front table, thus regulating the depth of cut as indicated by the depth of cut pointer and scale.

Note: As the fence is tilted the depth of cut is reduced.

ADJUSTMENTS:

If at any time the cut obtained should vary from that indicated on the depth of cut scale, the following adjustment may be made. Align the front and rear tables with a straight edge as indicated in Figure 2. Loosen the screws in the depth of cut scale No. 21711 and set the scale so the 0 mark lines up with the pointer. Do not forget to tighten the screws in the scale after the above adjustment is made.

If a 90° setting on the fence angle protractor does not produce square cuts, the fence may be reset square with the table by using an accurate try-square. After the 90° relation between the fence and table has been established, the screw holding the fence angle pointer may be loosened and the pointer reset at 0.

If a gouge or step is produced at the end of a cut, it is an indication that the rear table is too low. Likewise, the cut may diminish or taper as the work is

pushed through, as a result of a high rear table. Either of these conditions may be rectified by aligning the table surfaces in the following manner. (See Figure 2.) Set the front table on the 0 mark on the depth of cut scale. Back the lock screws out several turns. The rear table surface may then be raised or lowered by turning any or all of the three leveling jacks No. 18516. When the rear table has been adjusted so that the straight edge shows perfect alignment between the two table surfaces across their full width, the lock screws may be tightened. The leveling jacks must be held secure while turning the lock screws.

After correct table alignment has been established, if the depth of cut varies between two sides of a piece it is an indication that the cutter head is not properly aligned with the front table surface. If the work piece hits the edge of the rear table instead of passing smoothly over its surface, the cutter head is too low. Adjustments may be made to correct either or both of these difficulties. Remove the bearing cover and belt cover, No. 21717 and No. 21718 by sliding them straight up until the two key hole slots in each may be disengaged from the screw heads on which they are installed. Loosen the four arbor mounting bracket screws No. X-208. A screw, No. X217, in the bottom of each bearing bracket No. 21223, when turned will raise or lower the cutter head the small amount necessary to align it properly, or to level it with the table surfaces. The leveling adjustment of both the cutter head and the rear table is always made in relation to the front table. Tighten the arbor mounting bracket screws No. X208 securely after the above adjustment.

Trial cuts should be made after any adjustment to check that no other control unit has been disturbed, and that all controls are functioning in proper relation to each other.

After a few hours operation tighten all pulley set screws.

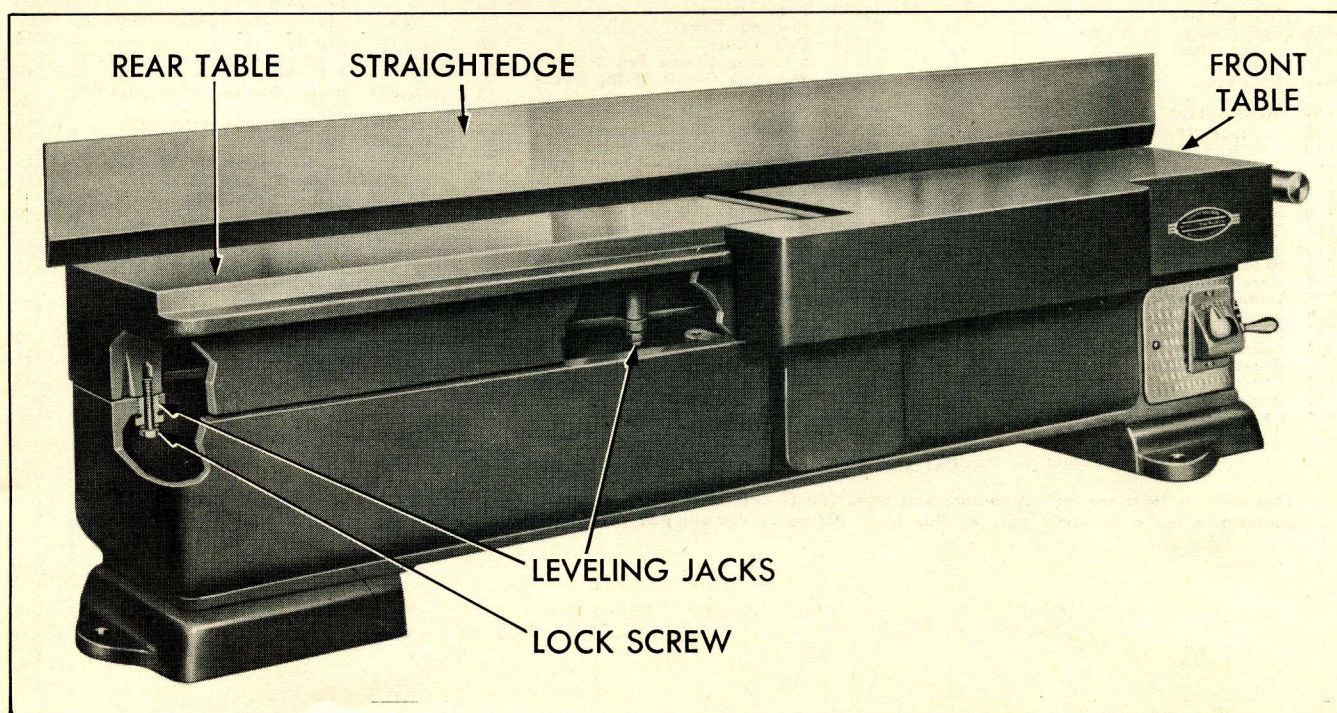


FIGURE 2

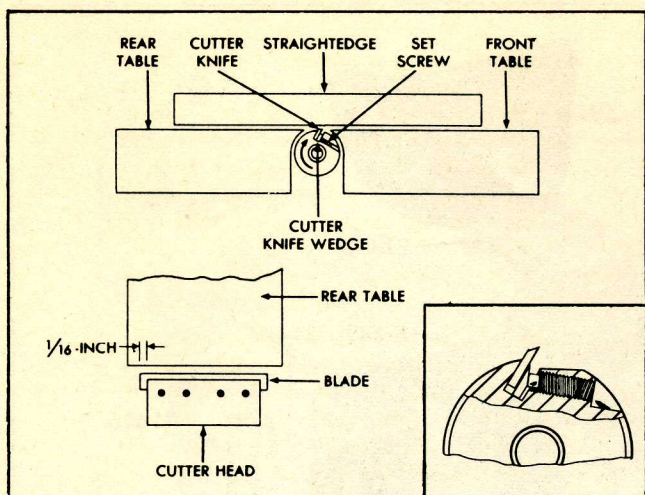


FIGURE 4

SHARPENING THE BLADES:

The three $6\frac{1}{8}$ inch high speed steel cutter knives will give satisfactory cutting service for many hours of operation without regrinding, if they are honed occasionally with a fine abrasive stone to retouch the edge. This operation can be performed as shown in Figure 4. It is not necessary to remove the cutter blades from the head. Before honing, cover part of the stone with paper as shown, so the table surface will not be injured. For satisfactory results, the original bevel angle must be maintained on the knives. Adjust the front table so that the stone presses lightly against the full width of the knife bevel. Secure the cutter-head in the desired position by inserting a wooden wedge between the cutter head and table, as shown. Place the paper covered portion of the stone on the front table, and by moving the stone back and forth, hone the **full length** of each knife in turn. The small burr on the flat side of the blades may be removed by a few light strokes with a fine abrasive stick or a piece of emery cloth.

CAUTION!

To insure safe operation of the machine, blades should not be reinstalled which have been ground down to less than $9/16$ inch in width.

RESETTING THE BLADES:

If the blades are removed for grinding or replacement, care should be exercised at time of replacement. Set both tables at the same level—check with an accurate straight-edge. Be sure that the cutter head is parallel to the front table surface. All three blades should

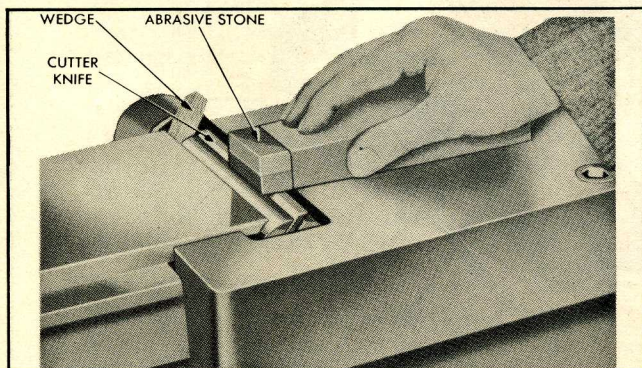


FIGURE 3

project $1/16$ inch at left side of the cutter head. (See Figure 3). With the edges projecting slightly above the surface of the tables, the blades may be clamped lightly in position with the set screws and wedge provided for each blade. The point of the set screws should engage the slot in the face of each wedge, see Fig. 4. With the straight edge on the tables as shown in figures 2 and 3, position the blades by tapping with a piece of hardwood until each knife-edge just touches the straight-edge lightly at either end of the blade as the cutter head is turned by hand. When all three knives have been aligned in the above manner, tighten the twelve set screws securely. Trial cuts should be made after reinstalling the blades to check the setting.

OPERATION:

The cutter guard shown in Figure 1 should be in operating position at all times except during rabbeting at which time the sliding guard covers the unused portion of the cutter head. For the rabbeting operation, the fence is shifted from its normal position at the right hand edge of the table to the desired position on the left hand side. The width of cut is determined by the distance from the end of the cutter knives to the fence. Depth of cut is determined by the position of the front table as previously described.

Face planing or surfacing is the most common function of the jointer, yet extreme care must be exercised during this operation. The depth of cut is determined by the width of the material; the wider the material, the less the cut. In most cases a $1/32$ cut will produce the best surface. Deeper cuts should be made in successive stages until the full depth has been attained. The work should be advanced through the guard to the cutter head with a smooth slow feed. Both hands should be placed on top of the work piece, the left hand pressing the piece firmly against the rear table surface, the right hand exerting the feed pressure over the front table.

When cutting pieces over four feet in length, the most uniform cut will be maintained by supporting the piece at table height after it leaves the rear table surface. Warped stock should be cut on the concave side for best results. To avoid pitting or torn grain it is advisable, wherever possible, to determine which way the grain emerges on a piece of wood. The direction of feed should be governed accordingly; the grain should emerge on the lower surface of the wood and should point toward the front of the jointer.

When surfacing thin stock ($1/2$ inch or less) a push block should always be used.

Because of the cut-out in the lower edge of the fence, designed for clearance at maximum depth of cut setting, a guide surface is not available beyond the cutter head when surfacing stock less than $9/16$ inch thick. It is sometimes necessary to clamp an auxiliary face to the fence. This face should be attached after the front table position has been established, and should rest on the rear table surface.

The function of the fence in the beveling operation has been described in the paragraph on controls.

Guards and covers have been provided at all necessary points. For your safety we recommend that these be kept in place at all times during the operation of the jointer.

An interesting booklet covering special operations which may be performed on your jointer is listed in our catalog.

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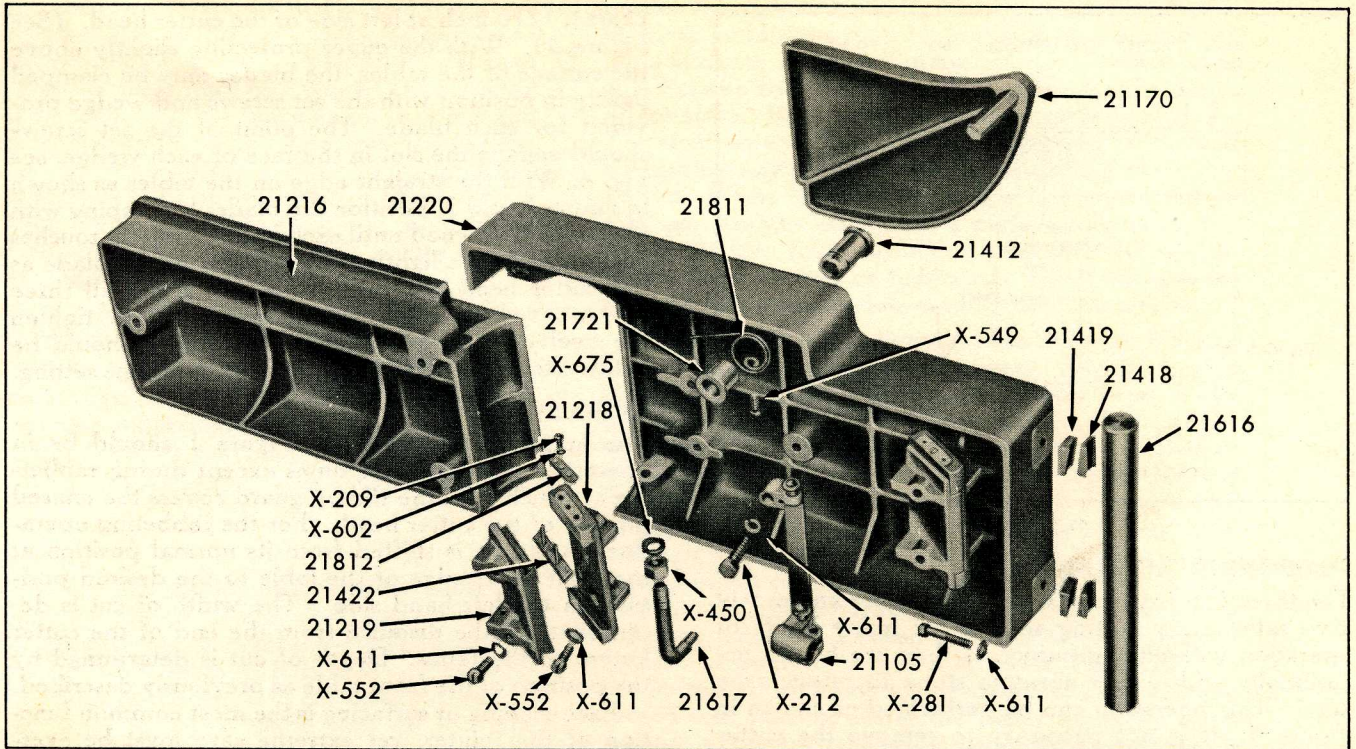
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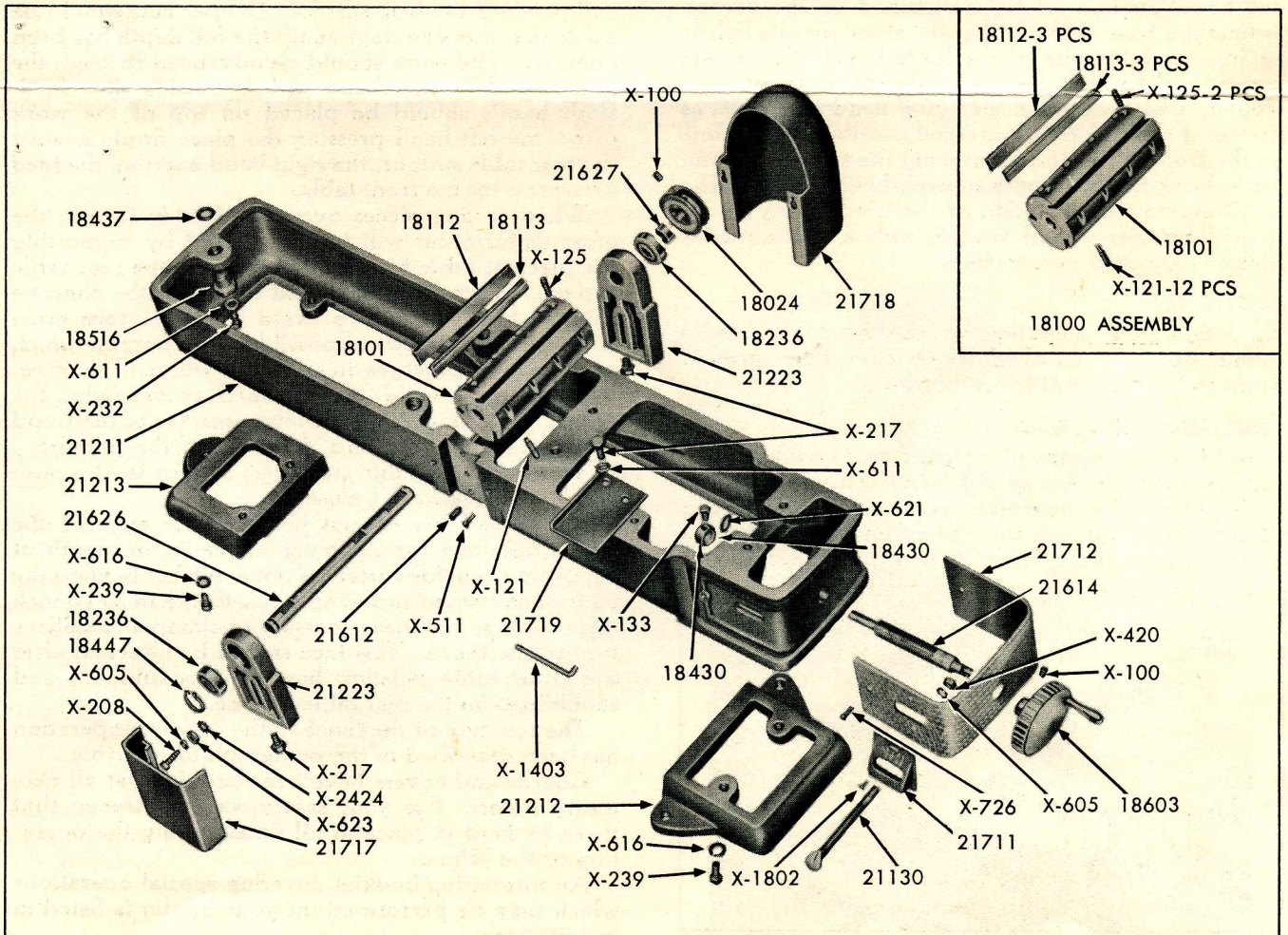
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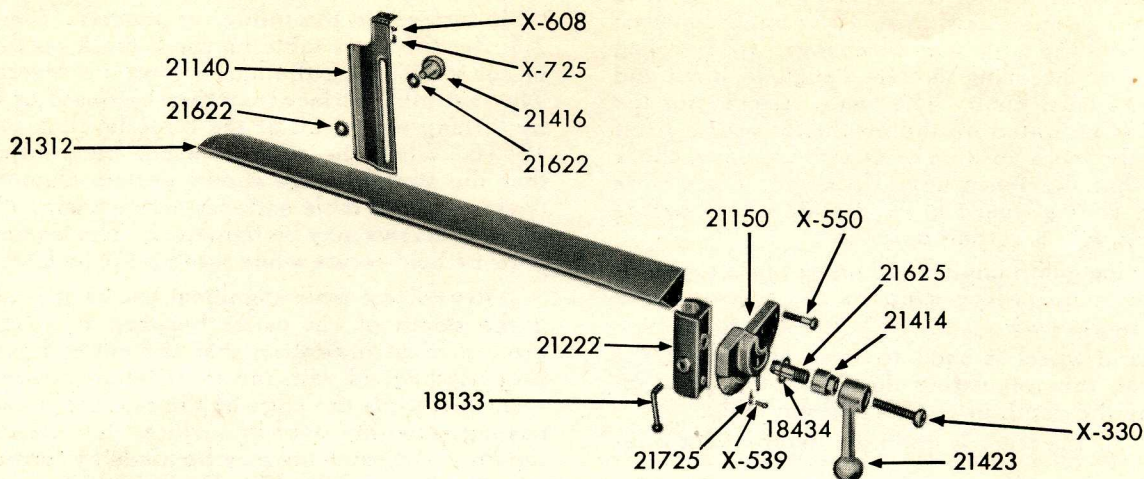
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TABLES AND ASSOCIATED PARTS



BASE AND ASSOCIATED PARTS



FENCE ASSEMBLY

PARTS LIST

Part Number	NAME	Prepaid Selling Price Each	Part Number	NAME	Prepaid Selling Price Each	Part Number	NAME	Prepaid Selling Price Each
18024	Pulley with set screws. — 2 inch single groove V-pulley $\frac{5}{8}$ inch bore. Purchase from your nearest Sears retail store or mail order house. Ask for Catalog No. 9-2901— $\frac{5}{8}$ inch bore.	—	21416	Sliding Guard Knob.....	\$.65	*X-232	Hex Head Cap Screw 5/16 18 x $1\frac{3}{4}$	\$.10
18100	Cutter Head Assembly — includes blades, wedges, and set screws.....	\$20.00	21418	Fence Guide Bar Spacer (Frt).....	.25	*X-239	Hex Head Cap Screw $\frac{5}{16}$ 16 x $1\frac{3}{4}$.....	.10
18101	Cutter Head with Set Screws.....	14.00	21419	Fence Guide Bar Spacer (B'k).....	.25	*X-31	Hex Head Cap Screw 5/16 18 x $1\frac{1}{2}$.....	.10
18112	Cutter Blades—Purchase from your nearest Sears retail store or mail order house. Ask for Catalog No. 9-2293.	—	21422	Dovetail Spacer.....	.25	*X-330	Fillister Head Mach. Screw $\frac{5}{16}$ 16 x $1\frac{3}{4}$.....	.10
18113	Cutter Blade Wedge.....	.50	21423	Fence Angle Lock Handle... ..	2.00	*X-420	Hex Nut $\frac{1}{4}$ —20.....	.10
18133	Fence Slide Lock Handle.....	.30	21612	Cutter Head Leveling Stud... ..	.25	X-450	Hex Jam Nut $\frac{1}{2}$ —13.....	.10
18236	Ball Bearing.....	2.20	21614	Table Elevating Screw.....	.75	*X-511	Round Head Mach. Screw No. 10—24 x $\frac{5}{16}$.....	.10
18430	Collar with Set Screw.....	.35	21616	Fence Guide Bar.....	2.00	*X-539	Round Head Mach. Screw No. 10—24 x $\frac{1}{4}$.....	.10
18434	Fence Angle Washer.....	.15	21617	Sliding Guard Rod.....	.55	*X-549	Round Head Mach. Screw No. 12—24 x 5/16.....	.10
18437	Washer.....	.15	21622	Sliding Guard Washer.....	.15	X-550	Fillister Head Mach. Screw $\frac{1}{4}$ 20 x $1\frac{1}{4}$.....	.10
18447	Retaining Ring.....	.15	21625	Fence Angle Lock Stud.....	.50	X-552	Fillister Head Mach. Screw 5/16—18 x $\frac{5}{16}$.....	.10
18516	Leveling Stud.....	.35	21626	Arbor.....	1.50	X-602	Plain Washer 17/64 I.D. $\frac{5}{16}$ O.D. ....	.10
18603	Hand Wheel with Set Screws..	3.00	21627	Spacer.....	.20	*X-605	Lock Washer 9/32 I.D. ....	.10
21105	Linkage Assembly.....	2.00	21711	Depth of Cut Gage.....	.75	*X-608	Lock Washer 13/64 I.D. ....	.10
21130	Depth of Cut Pointer Assembly	.60	21712	Front cover.....	2.50	*X-611	Lock Washer 11/32 I.D. ....	.10
21140	Sliding Guard and Hinge Assembly.....	1.25	21717	Bearing Cover.....	.50	*X-616	Lock Washer 25/64 I.D. ....	.10
21150	Protractor and Scale Assembly	2.15	21718	Belt Cover.....	1.20	X-621	Plain Washer $\frac{5}{16}$ I.D. 43/64 O.D. ....	.10
21170	Swinging Guard.....	3.50	21719	Swinging Guard Pin Support	.15	X-623	Plain Washer 5/16 I.D. x $\frac{5}{16}$ O.D. x $\frac{5}{16}$ thick.....	.10
21211	Base.....	35.00	21721	Swinging Guard Spring Bushing.....	.15	*X-675	Lock Washer 33/64 I.D. ....	.10
21212	Front Foot.....	3.50	21725	Fence Angle Pointer.....	.15	*X-725	Round Head Screw No. 10—24 x $\frac{5}{16}$.....	.10
21213	Rear Foot.....	3.50	21811	Swinging Guard Spring.....	.15	X-726	Round Head Screw No. 6—32 x $\frac{1}{4}$.....	.10
21216	Rear Table.....	18.00	21812	Dovetail Tension Plate.....	.25	*X-1403	Allen Wrench 5/32.....	.15
21218	Upper Dovetail.....	3.25	X-100	Set Screw—Slotted Head $\frac{1}{4}$ —20 x $\frac{1}{4}$ Cup Point.....	.10	X-1802	Sheet Metal Screw No. 4 x $\frac{1}{4}$.....	.10
21219	Lower Dovetail.....	3.00	X-121	Set Screw—Socket Head 5/16 24 x $\frac{5}{16}$ Full Dog Point.....	.10	X-2424	Lock Washer—External—Internal 5/16 I.D. x $\frac{5}{16}$ O.D. ....	.10
21220	Front Table Assembly.....	26.00	X-125	Set Screw—Socket Head 5/16 24 x $\frac{5}{16}$ Cup Point.....	.10			
21222	Fence Slide.....	4.00	X-133	Set Screw—Square Head 5/16 18 x $\frac{5}{16}$ Cup Point.....	.10			
21223	Bearing Bracket.....	4.75	*X-208	Hex Head Cap Screw 5/16 18 x 1.....	.10			
21312	Fence.....	13.00	*X-209	Hex Hd. Cap Screw $\frac{1}{4}$ —20 x $\frac{1}{2}$.....	.10			
21412	Swinging Guard Insert.....	.75	*X-212	Hex Head Cap Screw 5/16 18 x $1\frac{1}{4}$.....	.10			
21414	Fence Angle Lock Nut.....	.50	*X-217	Hex Head Cap Screw 5/16 18 x $\frac{1}{2}$.....	.10			

*—Parts marked in this manner may be purchased locally.

This sheet is intended for instruction and repair parts only and is not a packing slip. The parts shown and listed may include accessories not necessarily part of this tool. All parts are shipped prepaid. All price are subject to change without notice.